User Manual

DIGI-SENSE™

Thermohygrometer Indicator with External Probe

with NIST-Traceable Calibration

Model 20250-31

CE

THE STANDARD IN PRECISION MEASUREMENT

Introduction

The Digi-Sense Thermohygrometer Indicator (Model 20250-31) is designed for both indoor and outdoor applications, and displays temperature, humidity, and time. Advanced features of this thermohygrometer include °F/°C unit selection, built-in sensor for indoor temperature, external probe for outdoor temperature, Max/Min reading for temperature and humidity, environmental comfort indicator, and clock with alarm and date. The instrument is fully tested and calibrated to NIST-traceable standards. Careful use of this meter will provide years of reliable service.

Unpacking

Check individual parts against the list of items below. If anything is missing or damaged, please contact your instrument supplier immediately.

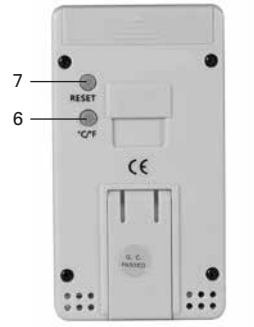
1. Indicator with external probe
2. One AAA (1.5 V) battery, installed
3. C-clip for mounting
4. User manual
5. NIST-traceable calibration report with data

Key Features

- User-selectable °C or °F units
- Built-in sensor for indoor temperature
- External probe for remote temperature and humidity measurement
- Max/Min reading for temperature and humidity
- Environmental symbols displayed: COMFORT (comfortable), WET (high humidity), DRY (low humidity)
- Clock with alarm and date

Meter Description

1. LCD (four readouts)
2. **MODE** button
3. **ADJ** adjustment button
4. **MEMO** memory button
5. External temperature probe
6. **°C/°F** button (on back of unit)
7. **RESET** button (on back of unit)



Setup and Operation

Button Functions

1. **MODE** switches from clock to alarm function
2. **ADJ** sets clock, alarm, and date
3. **MEMO** displays Max/Min temperature and humidity readings
4. **°C/°F** changes temperature display unit of measure
5. **RESET** clears all settings and memory data

Display

1. The screen is divided into four parts:
   a. Section one displays time, date, and alarm
   b. Section two displays internal sensor temperature readings (in either °C or °F)
   c. Section three displays external probe temperature readings (in either °C or °F)
   d. Section four displays relative humidity % and comfort indicator symbols

View Current Time and Date

1. Press the **ADJ** button to view time and date.

View Max/Min Temperature and Humidity

1. Press the **MEMO** button to toggle between Current/Max/Min/Current.
2. Press the **MEMO** button for longer than two seconds to clear the Max/Min memory.

Environmental Comfort Display Symbols

1. Temperature at 68 to 78.8°F (20 to 26°C) and relative humidity between 50% and 70% RH will show **COMFORT** symbol.
2. Any temperature and relative humidity above 70% RH shows the **WET** symbol for high humidity.
3. Any temperature and relative humidity below 50% RH shows **DRY** symbol for low humidity.

Setting Clock and Date

1. Press the **MODE** button to make sure you are in the time mode and not the alarm mode. Once in the time mode, press and hold **MODE** button for three seconds to activate.
2. The *minutes* will start to blink; use the **ADJ** button to increase value.
3. Press the **MODE** button to advance to *hours* and use the **ADJ** button to increase value (see Fig. 1).
4. Press the **MODE** button to advance to the *12- or 24-hour* mode and use the **ADJ** button to change value (see Fig. 2).
5. Press the **MODE** button to advance to *month* and use the **ADJ** button to increase value (see Fig. 3).
6. Press the **MODE** button to advance to *date* and use the **ADJ** button to increase value.

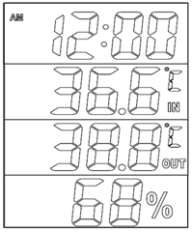


Fig. 1

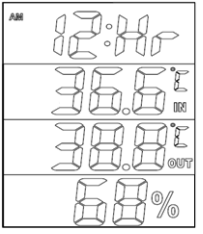


Fig. 2

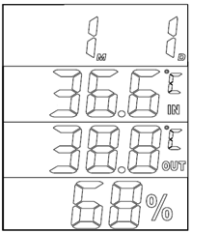


Fig. 3

Setup and Operation (continued)

Setting Alarm

1. Press **MODE** button to make sure you are in the alarm mode and not the time mode. Once in the alarm mode, press and hold the **MODE** button for three seconds to activate.
2. The *minutes* will start to blink; use the **ADJ** button to increase value.
3. Press the **MODE** button to advance to hours and use the **ADJ** button to increase value.

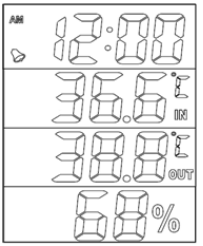


Fig. 4

Activating the Alarm

1. Press the **MODE** button to advance to turning the alarm on/off hours and use the **ADJ** button to change the value.
   a. symbol indicates the alarm is active.
   b. symbol indicates the alarm is active in sound mode.
2. Press the **MODE** button to exit.

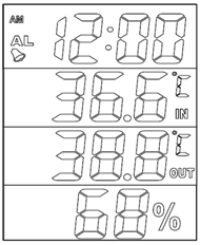


Fig. 5

Changing Unit of Measure

1. Temperature unit displayed can be changed from °C to °F by pressing the °C/°F button on the back of the unit.

Reset Button

1. Press and hold **RESET** button on the back of the unit to clear all information and default to the factory settings.

Specifications

Range	
Humidity	10 to 90% RH
Temperature (external sensor)	–58 to 158°F (–50 to 70°C)
Temperature (internal sensor)	32 to 120°F (0 to 50°C)
Resolution	
Humidity	1%
Temperature	0.1°F/C
Accuracy	
Humidity	±5% (40% RH ~ 80% RH), ±8% for remaining
Temperature (external sensor)	±5°F (2.5°C) from –58 to –22°F (–50 to –30°C), ±3°F (1.5°C) from –22 to 32°F (–30 to 0°C), ±1.8°F (1°C) from 32 to 104°F (0 to 40°C), ±4°F (2°C) from 104 to 122°F (40 to 50°C), ±5°F (2.5°C) from 122 to 140°F (50 to 60°C), ±6°F (3°C) from 140 to 158°F (60 to 70°C)
Temperature (internal sensor)	±1.8°F (1°C) from 32 to 120°F (0 to 50°C)

Display	LCD
Auto power-off	Unit shuts off automatically after six minutes to preserve battery life
Weight	3 oz (85 g)
Dimensions (L x W x H)	4" x 2¼" x ½" (10.1 x 6.3 x 1.3 cm)
Power	One AAA battery

Maintenance, Recalibration, and Repair

Cleaning and Storage

- Meter should be cleaned with a damp cloth and mild detergent when necessary. Do not use solvents or abrasives.
- Store unit in an area with moderate temperature and humidity.

Battery Replacement

If battery power is insufficient, open the battery cover on the back of the unit and replace the AAA battery. Close cover securely.

It is recommended that Digi-Sense products are calibrated annually to ensure proper function and accurate measurements; however, your quality system or regulatory body may require more frequent calibrations. To schedule your recalibration, please contact InnoCal, an ISO 17025 calibration laboratory accredited by A2LA.

INNOCAL®
INNOVATIVE CALIBRATION SOLUTIONS

Phone: 1-866-INNOCAL (1-866-466-6225)
Fax: 1-847-327-2993
E-mail: sales@innocalsolutions.com
Web: InnoCalSolutions.com

For Product and Ordering Information, Contact:

Cole-Parmer®
Delivering Solutions You Trust

Toll-Free: 1-800-323-4340
Phone: 1-847-549-7600
Fax: 1-847-247-2929
ColeParmer.com/Digi-Sense

Davis Instruments™
Proven. Precise. Personal.

Toll-Free: 1-800-358-5525
Phone: 1-847-327-2000
Fax: 1-847-327-2700
Davis.com/Digi-Sense